

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A-791
Revision 6
THORP
T-11
T-211

May 14, 2002

AIRCRAFT SPECIFICATION NO. A-791

Type Certificate Holder: AD Aerospace Inc
125 Townpark Drive, Suite 300
Kennesaw, GA 30144

Type Certificate Record: Reissued to DM Aerospace Limited in WA on September 10, 1998.
Reissued to AD Aerospace Inc in GA on May 13, 2002.

I - Model T-11 (Thorp 11) (Normal Category), Approved December 22, 1948

Engine	Lycoming O-145-B2
Fuel	73 minimum octane aviation gasoline
Engine Limits	For all operations, 2550 rpm (65 hp)
Airspeed Limits (CAS)	Maneuvering 109 mph (95 knots) Maximum structural cruising 101 mph (88 knots). Never exceed 128 mph (111 knots) Flaps extended 81 mph (70 knots)
C.G. Range	(+37.6) to (+42.0)
Empty Weight C.G. Range	(+37.5) to (+39.0). Unusable fuel (Item 105) must be included in certificated empty weight. When empty weight C.G. falls within this range, computation of critical fore and aft C.G. positions is unnecessary. Range is not valid for non-standard arrangements.
Datum	Forward face of lower firewall.
Leveling Means	Lugs in baggage compartment floor
Maximum Weight	1050 lbs.
No. of Seats	2 (+36)
Maximum Baggage	80 lbs.
Fuel Capacity	Total - 18 gals. (+65) Unusable - 4 gals. (+65)
Oil Capacity	5 qts. (-7)

Page No.	1	2	3	4	5	6
Rev No.	6	4	4	4	4	5

Control Surface Movements	Elevator (measured in inches from lower rear corner of rudder to upper surface of elevator at tab hinge line) (neutral position: $-6.6 \pm 0.2"$) -up $3.0 \pm 0.2"$; down $7.6 \pm 0.2"$. Elevator tab (measured with respect to elevator) -up $29 \pm 1^\circ$ (elevator full up); down $9 \pm 1^\circ$ (elevator full down). Rudder - right $33 \pm 1^\circ$; left $33 \pm 1^\circ$. Aileron - up $35 \pm 1^\circ$; down $9 \pm 1^\circ$. Flaps - down $31 \pm 1^\circ$.
Serial Nos. Eligible	3, 4 and 6
Required Equipment	Items 1, 102, 104, 201, 202, 401 and 402

II - Model T-211 (Thorp 211), 2 PCLM (Normal Category), Approved April 20, 1964

Engine	Continental O-200-A modified in accordance with Supplemental Type Certificate No. SE8WE	
Fuel	80/87 minimum grade aviation gasoline	
Engine Limits	For all operations, 2750 rpm (100 hp) See Note 3.	
Airspeed Limit (CAS)	Maneuvering	113 mph (98 knots).
	Maximum structural cruising	126 mph (109 knots)
	Never exceed	159 mph (138 knots)
	Flaps extended	81 mph (70 knots)
C.G. Range	(+68.7) to (+70.5) at 1270 lbs. (+65.0) to (+70.5) at 935 lbs. Straight line variation between points	
Empty Weight C.G. Range	None	
Datum	77 in. forward of wing spar web	
Leveling Means	Leveling marks installed on forward tunnel cover per Thorp Drawing No. 1118.	
Maximum Weight	1270 lbs.	
No. Seats	2 (+67)	
Maximum Baggage	80 lbs. (+87.2)	
Fuel Capacity	Total - 24 gals. (+97) Unusable - 1 gal. (+82.5)	
Oil Capacity	6 qts. (+23.3)	
Control Surface Movements	Elevator (measured in inches from lower rear corner of rudder to upper surface of elevator at tab hinge line) (neutral position: $-6.6 \pm 0.2"$) -up $3.0 \pm 0.2"$; down $7.6 \pm 0.2"$. Elevator tab (measured with respect to elevator) -up $29 \pm 1^\circ$ (elevator full up); down $9 \pm 1^\circ$ (elevator full down). Rudder - right $33 \pm 1^\circ$; left $33 \pm 1^\circ$. Aileron - up $35 \pm 1^\circ$; down $9 \pm 1^\circ$. Flaps - down $31 \pm 1^\circ$.	
Serial Nos. Eligible	Nos. 5, 7, Nos. 10 through 99	
Required Equipment	Items 2, 102, 106, 107, 201, and 202	

III Model T-211 (Thorp 211), 2PCLM (Normal Category), Approved February 20, 1991

Engine	Continental O-200-A modified in accordance with Supplemental Type Certificate (STC) No. SE8WE	
Fuel	80/87 minimum grade aviation gasoline	
Engine Limits	For all operations, 2750 rpm (100 hp) See Note 3.	
Airspeed Limits (CAS)	Maneuvering	113 mph(98 knots)
	Max. structural cruising	126 mph (110 knots)
	Never exceed	159 mph (138 knots)
	Flaps extended	113 mph (98 knots)
C.G. Range	(+64.2) to (+70.5) at 1270 lbs. (+63.6) to (+70.5) at 872 lbs. Straight line variation between points	
Empty Weight	None	
Datum	59.15 in. forward of wing leading edge	
Leveling Means	Leveling marks installed on forward tunnel cover per Thorp Drawing No. 1118.	
Maximum Weight	1270 lbs.	
No. Seats	2 (+65.16)	
Maximum Baggage	40 lbs. (+87.2)	
Fuel Capacity	Total - 21 gals. (+94.75) Unusable - 1 gal (+82.5)	
Oil Capacity	6 qts. (+23.3)	
Control Surfaces	Stabilator (measured in degrees from waterline) up $18^{\circ} \pm 30'$; down $3^{\circ} \pm 1^{\circ}$ Stabilator trim tab (measured with respect to stabilator) up $23^{\circ} \pm 2^{\circ}$ with full nose down trim and stabilator up elevator full up $18^{\circ} \pm 30'$; down $7^{\circ} \pm 1^{\circ}$ with full nose up trim and stabilator down $3^{\circ} \pm 1^{\circ}$ Stabilator trim tab (alternate method) measured from the top surface of trim tab with respect to waterline - up $33^{\circ} \pm 2^{\circ}$ with full nose down trim and stabilator up $18^{\circ} \pm 30'$; down $16^{\circ} \pm 1^{\circ}$ with full nose up trim and stabilator down $3^{\circ} \pm 1^{\circ}$ Rudder - right $32^{\circ} \pm 2^{\circ}$; left $32^{\circ} \pm 2^{\circ}$ Aileron - up $34^{\circ} \pm 2^{\circ}$; down $10^{\circ} \pm 2^{\circ}$ Flaps - down $20^{\circ} \pm 2^{\circ}$	
Serial Nos. Eligible	100 and higher (See Note 4)	
Required Equipment	Items 3, 106, 109, 110, 111, 112, 203, 204, 306, 307, 308, 309, 310, 401, 403	

Specifications Pertinent to all Models

Certification Basis	Type Certificate No. 791 (CAR 3)		
Production Basis	None. Prior to original certification of each Model T-211, serial number 104 and subsequent, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with the approved technical data and a check of the flight characteristics. See Note 4.		
Export Eligibility	Aircraft is eligible for the issuance of Export Certificates of Airworthiness.		
Equipment	A Plus (+) or minus (-) sign preceding the weight of an optional item indicates the net weight change between that item and the equivalent required item.		
Propellers and Propeller Accessories	1.	Propeller (Model Thorp T-11 only) - U.S. 63T43, Sensenich 66CB42 or any other fixed pitch wood propeller rated for required hp and rpm with the following limits: (a) Static rpm at maximum permissible throttle setting: not over 2470, not under 2370. No additional tolerance permitted. Diameter: Not over 63 in., not under 61 in. (b) Static rpm at maximum permissible throttle setting: not over 2390, not under 2290. No additional tolerance permitted. Diameter: Not over 66 in., not under 64 in.	10 lbs (-19)
	2.	Propeller (Model Thorp T-211 only) - McCauley 1A100-MCM Static rpm at maximum permissible throttle setting: not over 2400, not under 2300. No additional tolerance permitted. Diameter: Not over 67 in. No cutoff for repairs permitted	19.5 lbs. (+8.3)
	3.	Propeller (Model Thorp T-211) - Sensenich 69CK512-2-56L Propeller and bolts Propeller extension Static RPM at maximum permissible throttle setting: not over 2250, not under 2100. No additional tolerance permitted. Diameter: Not over 67 in. No cutoff for repairs permitted	24.8 lbs. (+5.3) 4.4 lbs. (+8.5)
Engine and Engine Accessories - Fuel and Oil System	102.	Fuel strainer - Tillotson (Bowl OW363, Cover OW453)	0.5 lbs. (-1)
	104.	Fuel cell (Model Thorp T-11 only) - Firestone No. 18100, Construction No. E-1024	3 lbs. (+66)
	106.	Oil sump installed per John W. Thorp Drawing No. 1558 and STC No. SE8WE	
	107.	Engine driven fuel pump - AC Diaphragm type, Continental P/N 40585	2 lbs. (+3)
	108.	Starter - Delco-Remy P/N 1109656 or Continental 50309	16 lbs. (+23.3)
	109.	Fuel - Strainer - ACS 10560	
	110.	Fuel cell - Thorp No. 1382 Firestone Construction No. E-1425-3	
	111.	Engine driven fuel pump - AC Diaphragm type 631391	
	112.	Starter - Prestolite MZ - 4214 or Continental 634464	
Landing Gear and Floats	201.	Main landing gear wheels - Goodrich Model 451M with brakes, 5.00 -4 4-ply tires and tube (see Note under Item 202)	20.0 lbs.

Engine and Engine Accessories -
Fuel and Oil System

202. Nose gear wheel - Thorp wheel assembly, per Drawing No. 1114
NOTE: C.G.'s of wheels (axle stations) vary with degree of shock strut extensions, as follows:
- | <u>Shock strut</u> | <u>Main wheel C.G.</u> | <u>Nose wheel C.G.</u> |
|--------------------|------------------------|------------------------|
| Fully Extended | +53.7 | -3.6 |
| Fully compressed | +54.0 | -1.9 |
203. Main landing gear wheels - Cleveland Wheel, 20-65 and brake 30-9, 5.00-5 4-ply tire and tube
204. Nose gear wheel - Cleveland Wheel 40-77, 5.00-5 4-ply tire and tube

Electrical Equipment and Radio
(Model Thorp T-211 only)

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|-------|--|--------------------|
| 301. | Generator, Delco-Remy 1101890 or Continental 534111 | 9.8 lbs. (+23.3) |
| 302. | Voltage Regulator, Delco-Remy 118736 or Continental 534112 | 1.7 lbs. (+37.5) |
| 303. | Battery, Rebat S-24 | 26.0 lbs. (+114.7) |
| 304. | Position Lights | |
| | a. Grimes A1285-G-12(wing) | 1.0 lb. (+77.0) |
| | b. Grimes A1285-R-12(wing) | 1.0 lb. (+77.9) |
| | c. Grimes A2064-12 (tail) | 0.5 lb. (+210.9) |
| 305. | Radio Skycrafters Model AMT9-AMR4 (Thorp drawing T-211*1555) | 7.1 lbs. (+42.5) |
| NOTE: | Items 306, 307, 308, and 309 are standard equipment on Thorp T-211. Weights & Arms are included. | |
| 306. | Alternator 60 AMP-12 volt Continental 633661 | |
| 307. | Voltage Regulator, Zeftronics R15200 | |
| 308. | Battery Rebat S-25 or Gill G-25 | |
| 309. | Position Lights | |
| | a. Grimes A1285-G-12 (wing) | |
| | b. Grimes A1285-R-12 (wing) | |
| | c. Grimes A2064-12 (tail) | |
| 310. | Aero Flash 178-0003 strobe light | 1.37 lb. (+76.3) |
| 311. | Transponder; King KR76A | 3.1 lb. (+42.6) |
| 312. | ADF; King KR87, KA44B, K1227 | 7.5 lb. (+105.8) |
| 313. | Marker Beacon; King KMA24 | 1.7 lb. (+43.6) |
| 314. | VOR/ILS Indicator: King KI209 | 1.0 lb. (+45.2) |
| 315. | VOR/LOC Indicator: King KI208 | 1.0 lb. (+44.3) |
| 316. | NAV/COM: King KX155 | 5.7 lb. (+40.5) |
| 317. | LORAN: Apollo-800 | 2.3 lb. (+41.4) |

Interior Equipment

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|------|--|----------------|
| 401. | FAA Approved Airplane Flight Manual | |
| 402. | Back cover baggage compartment (Thorp Dwg. P-735) | Neglect weight |
| 403. | Back cover baggage compartment (Thorp Dwg. A-1044) | Neglect weight |

NOTE 1.

Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be in each aircraft at time of original certification and at all times thereafter. The certificated empty weight and corresponding center of gravity locations must include unusable fuel and oil.

NOTE 2.

The following placards must be displayed in front of and in clear view of the pilot:

- a. (T-11 only) "This airplane must be operated in compliance with the Operating Limitations Section of the FAA Approved Airplane Flight Manual."
- b. (T-11 only) "No acrobatic maneuvers including spins approved."
- c. (T-11 only) "Unusable fuel 4 gals."
- d. (T-211) "This airplane must be operated as a normal category airplane. No acrobatic maneuvers including spins approved".

NOTE 3.

The engine and oil cooling of the Model T-211 with Continental O-200-A engine installed have not been investigated for more than 2500 rpm at full throttle (91 hp) in the climb.

NOTE 4.

The Model T-211, serial numbers 104 and subsequent, built by:

Venture Light Aircraft Resources. L.L.C.
HCR2 Box 270
Tucson, AZ 85735

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